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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,920	08/31/2001	Shulong Li	5251	2182

7590 02/19/2004
Milliken & Company
P.O. Box 1927
Spartanburg, SC 29304

EXAMINER


SHEWAREGED, BETELHEM

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 02/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/943,920	Applicant(s) LI ET AL. 
	Examiner Betelhem Shewareged	Art Unit 1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6 and 8-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 and 8-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's response filed on 01/20/2004 has been fully considered. All rejections have been withdrawn in view of Applicant's amendments.
2. Claims 1-5 and 7 are cancelled, claims 6 and 8-10 are amended, and claims 6 and 8-16 are pending.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 6, 8, 11-13 and 16 are rejected under 35 U.S.C. 102(a) as being anticipated by Mishima (US 6,183,851 B1).

Mishima discloses an ink jet recording medium comprising a support and a coating layer provided on the support (abstract). The support comprises cloth (col. 17, line 12). The coating layer is equivalent to the claimed dye fixing/receiving layer. The coating layer comprises bactericide or antifungal agent such as alkylguanidine (col. 15, line 20), and further comprises cationic surface active agent such as quaternary ammonium salt (col. 15, line 63). The cationic surface active agent is equivalent to the claimed amino compound including quaternary amino moiety. The coating layer also includes inorganic pigment such as silica, alumina, calcium carbonate, alumina hydrate and titanium dioxide (col. 8, line 24).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 8-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al. (EP 0 896 883 A1) in view of Mishima (US 6,183,851 B1).

Kawai discloses a recording sheet comprising a substrate and an ink absorbing layer on the substrate (abstract). The substrate is a cloth [0015]. The ink absorbing layer is equivalent to the claimed dye fixing/receiving layer. The ink absorbing layer comprises a hydrophilic polymer [0042], a cationic monomer having quaternary ammonium base [0022], and inorganic powders such as silica, calcium carbonate, titanium dioxide, aluminum hydroxide and alumina [0060]. The cationic monomer is equivalent to the claimed amino compound including quaternary amino moiety. Kawai fails to disclose the particle size of the inorganic powders as claimed. The experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the particle size of the inorganic powders in order to optimize the ink-absorbing and glossiness properties of the layer. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

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Kawai teaches adding conventional additives into the ink absorbing layer [0062], but it fails to disclose an antimicrobial agent as the additive.

Mishima discloses an ink jet recording medium comprising a support and a coating layer provided on the support (abstract). The support comprises cloth (col. 17, line 12). The coating layer is equivalent to the claimed dye fixing/receiving layer. The coating layer comprises bactericide or antifungal agent such as alkylguanidine (col. 15, line 20), and further comprises cationic surface active agent such as quaternary ammonium salt (col. 15, line 63). The cationic surface active agent is equivalent to the claimed amino compound including quaternary amino moiety. The coating layer also includes inorganic pigment such as silica, alumina, calcium carbonate, alumina hydrate and titanium dioxide (col. 8, line 24).

Kawai and Mishima are analogous art because they are from the same field of endeavor that is the ink jet recording medium art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the bactericide or antifungal agent of Mishima with the invention of Kawai in order to prevent the growth of bacteria or microorganism on the recording medium.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 571-272-1529. The examiner can normally be reached on Mon.-Thur. 7:30AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Betelhem Shewareged
February 11, 2004.